

## Activity 3

### What Drives The Plates?

#### Think About It

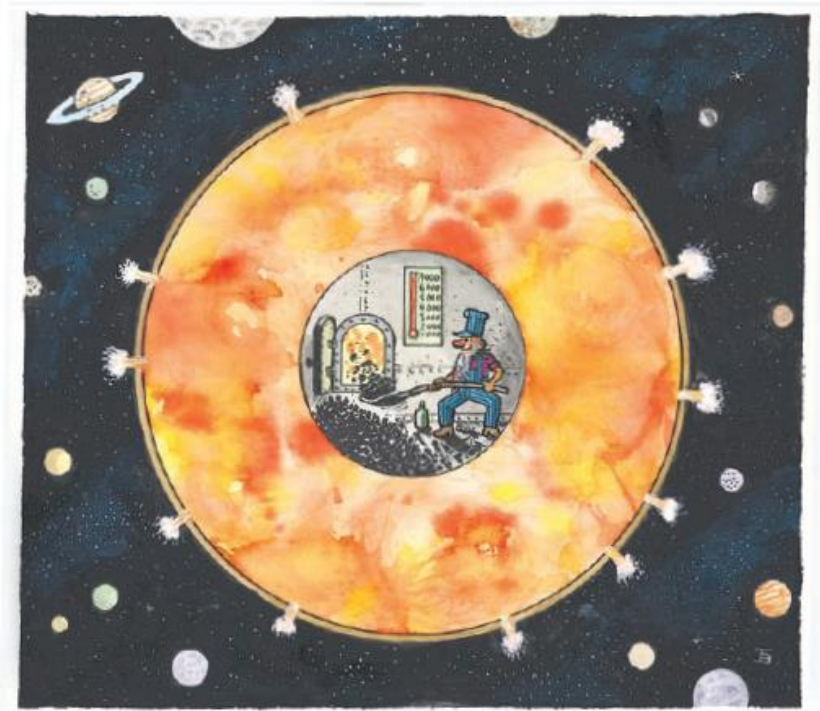
Page G85

Date

Page #

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- What causes the movement of the Earth's plates?



# WHAT DO YOU THINK?

## Activity 3

### What Drives The Plates?

#### Digging Deeper

Page G 89-93

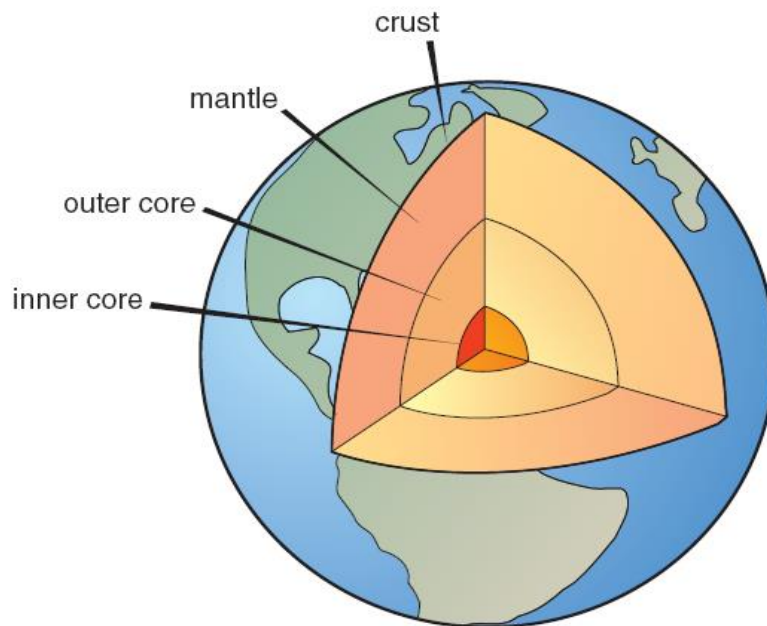
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Page #

**Learning Objective:** In writing, SWBAT describe and sequence the layers of Earth using academic language.

Earth's layers

- inner core
- outer core
- mantle
- crust



#### Core

the innermost part of the Earth  
made of iron and nickel

Outer core

is liquid iron and nickel

Inner core	is solid iron and nickel
Mantle	largest layer of Earth below the crust

### Plate tectonics

the theory that Earth's surface is broken into plates that move on the asthenosphere

### Learning Objective:

**In writing, SWBAT explain convection current, and relate it to the movement of Earth's lithospheric plate.**

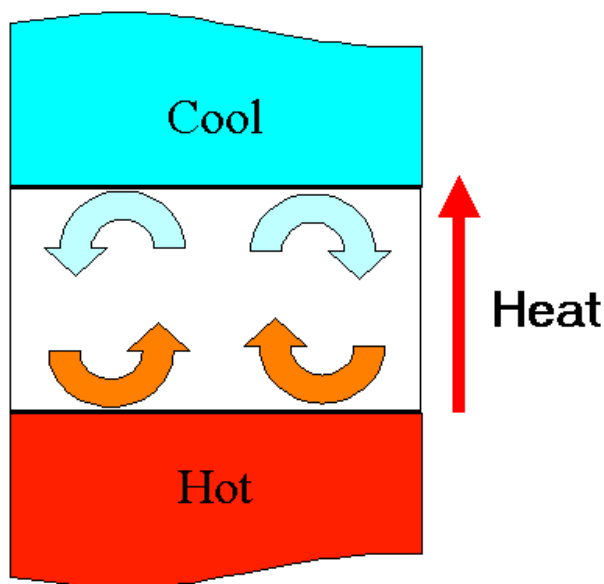
### Convection current

the movement of a gas or liquid caused by differences in temperature

How convection works

warm materials are less dense and rise

Cool materials are more dense and sink



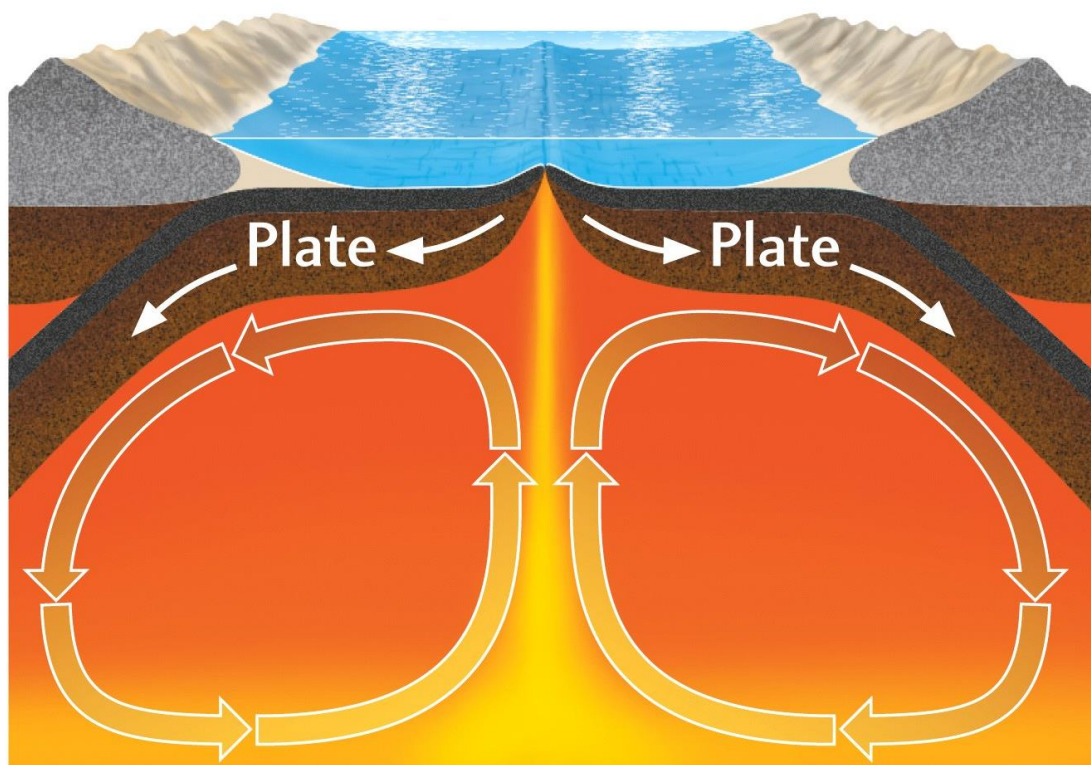
Convection currents  
in the mantle

scientists believe this is what  
causes Earth's plates to move

Mantle rock is heated near the  
core and rises to the surface at  
divergent plate boundaries

As the plates continue to spread  
apart, the material cools and sinks  
back into the mantle at convergent  
plate boundaries

Scientists believe this process  
causes the movement of the plates



<http://www.youtube.com/watch?v=ryrXAGY1dmE>

<http://www.absorblearning.com/media/attachment.action?quick=12p&att=2775>

<http://education.sdsc.edu/optiputer/flash/convection.htm>

## Activity 3

### Check Your Understanding

Date

Page G93

Page #

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1. How can the density of the Earth be calculated?

2. How does the density of the Earth provide evidence that the interior of the Earth is denser than the surface?

3. Name three main layers of the Earth.

4. Why is the inner core of the Earth solid, even though it is hot?

5. How are convection currents set up?